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| APPLICATION NO.  | FILING DATE | FIRST NAMED INVENTOR    | ATTORNEY DOCKET NO.           | CONFIRMATION NO. |
|--|-------------|-------------------------|-------------------------------|------------------|
| 10/713,502   | 11/15/2003  | Clair John Glossner III | YOR919990548US4<br>(8728-341) | 9966             |
| 46069  | 7590        | 12/23/2005              | EXAMINER                      |                  |
| F. CHAU & ASSOCIATES, LLC<br>130 WOODBURY ROAD<br>WOODBURY, NY 11797 |             |                         | PAN, DANIEL H                 |                  |
|  |             |                         | ART UNIT                      | PAPER NUMBER     |
|  |             |                         | 2183                          |                  |

DATE MAILED: 12/23/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

|                              |                        |                     |  |
|------------------------------|------------------------|---------------------|--|
| <b>Office Action Summary</b> | <b>Application No.</b> | <b>Applicant(s)</b> |  |
|                              | 10/713,502             | GLOSSNER ET AL.     |  |
|                              | <b>Examiner</b>        | <b>Art Unit</b>     |  |
|                              | Daniel Pan             | 2183                |  |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 17 October 2005.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 3-11, 14-22 and 25-33 is/are pending in the application.
- 4a) Of the above claim(s) 1, 2, 12, 13, 23, 24 and 34-60 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 9-11, 20-22 and 31-33 is/are allowed.
- 6) ☒ Claim(s) 3-5, 8, 14-16, 19, 25-27 and 30 is/are rejected.
- 7) ☒ Claim(s) 17, 18, 28 and 29 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

1. Claims 3-11,14-22, ,25-33 remain for examination. Claims 1,2,12,13,23,24,34-60 have been canceled. T.D. on 05/02/05 has been received and approved.
2. This action includes new ground of rejection to claims 14-16, 19 , 25,26,27,30 with the following effects with examiner's response to applicant's remark on 10/17/05 :
3. Claims 9-11 are allowable over the art of record for the reasons already provided in the last Office action on 08/13/04.
4. In the remark by applicant on 10/17/05, applicant argument that the claim recite the pointer array coupled to a bus, therefore is tangible.
5. As to applicant's remark above, The remark is found persuasive. The rejections to claims 3,4,5,9-11 under "101" will be withdrawn with additional suggestion to theses claims : insert "computer" before the word "system" in the preamble. That should clarify whether the "system" is directed to a computer or not, and therefore, a practical application.
6. Claims 20-22, 31-33 are allowable over the art of record for reciting the combined detailed features of the vector data file , the pointer array with the arbitrary starting address, the pointer array storing the address of logical organized matrix of rows and columns of the vector elements.

7. The argument filed by applicant on 10/17/05 regarding the rejections to claims 14,25, 20-22, 31-33 under "101" has been found persuasive. Therefore, the rejection has been withdrawn.

8. Claims 3-5,8, 14-16, 19 , 25,26,27,30 are rejected under new ground. It is found the Panwate did include implicit teaching of the update of the pointer array from the data in the vector data file ,therefore, this is a non-final action to allow applicant a chance the respond.

9. Claims 6,7,17,18,28,29 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. For further reciting the tow entries of pointer array updated as same logical operation (clams 6,17,28), and the modulo operation and the stride operation (claims 7, 18,29).

10.

11. Claims 3-5,8, 14-16, 19 , 25,26,27, 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Watanabe et al. (5,669,013) In view of Karp et al (5,689,653) in view of Pawate et al. (5,528,550)

12. As to claims 3-5, 14, 25 , Watanabe taught :

a) a vector data file comprising a plurality of storage elements for storing data elements of the data vectors (e.g. see the vector registers in figs. 4A-F, col.5, lines 1-61);

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b) pointer identifying the vector elements in the data file (e.g. figs.4 A-F, see col.5, lines 1-61);

c) a starting address in the vector file (e.g. see col.5, lines 1-12).

13. Watanabe did not specifically show to access of the vector portions was "arbitrary" as claimed. However, Karp disclosed a vector system including arbitrarily vector length (e.g. see the vector identifying information specified by instruction col.4, lines 61-66, see the identifying information, vector length and the arbitrary size in col.5, lines 13-32, it arbitrary because it was designated by instruction). It would have been obvious to one of ordinary skill in the art to use Karp in Watanabe for accessing arbitrary vector portions as claimed because the use of Karp could enhance the processing capability of vector registers in Watanabe for providing a greater number of vector elements at a given request, thereby expanding the processing structure of Watanabe, and it could be readily achieved by configuring the arbitrary vector portions of Karp into Watanabe, such that the specific number of vector elements could be accessed, and because Watanabe also disclosed that his vector data was being transferred between one group of vector registers and the processing unit in the background, while vector data was being transferred between another group of vector registers and the main memory to make available vector data and that pointers were used for keeping track of the order of array elements (e.g. see col.1, lines 60-67, col.2, lines 1-5, col.2, lines 19-21), which was a suggestion of the need of an arbitrary set of

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vector portions (e.g. in the foreground and background) in order to reduce the wait time of processing unit, and in doing so, provided a motivation.

14. Neither Watanabe nor Karp specifically show the pointer array as claimed. However, Pawate disclosed a vector processing system including a pointer array including a 67, col.6, lines 1-3). It would have been obvious to one of ordinary skill in the art to use Pawate in Watanabe for including the pointers array as claimed because the use of Pawate could provide Watanabe the efficient control of the vector data in a plurality of pointers (See the link list of the pointers in fig-4, col. 5, lines 65 predetermined set of the vector access sequence, thereby increasing the efficiency of the vector access in a given vector search request., and because Watanabe also disclosed more complex vector access system, such as the submatrices implementations (see the matrix applications in Appendices), and pointers were used in tracking the order of vector elements (col.2, lines 19-21), which would have required the use of a pointer array to adapt to complex variables in the matrix expressions, and in doing so, provided a motivation.

15. Neither Watanabe nor Karp specifically show the update of the pointer array entries from the data read out as claimed. However, Pawate disclosed a selection of the result from the ALU , and updating of the vector in the memory (see col.6, lines 25-33). It should be recognizable by one of ordinary skill in the art that the pointer to the given vector had to be updated accordingly with the result read from the ALU though not explicitly taught. Therefore, for this reason , Pawate did teach the update of the pointer

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array (see the format of the pointer array in fig.4) because of the feedback result of the updated vector.

16. As to the increment of the pointer array and the starting address in claims 8, 15,16, 19,26,27, 30, each entry of the pointer array (linked list) of Pawate also included a starting address of at least one storage element (e.g. see the last field of each vector V pointing to the starting address of the next vector  $V_{n-1}$  in fig.4,, col.5, lines 65-67, col.6, lines 1-3 ). As for the increment of pointer array, Pawate's last field to point to the next vector,  $V_{n-1}$ , was an increment.

17. Watanabe et al. (5,669,013) , Karp et al (5,689,653) , Pawate et al. (5,528,550) were cited in the record, therefore, copies are included herein.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dan Pan whose telephone number is 703 305 9696, or the new number 571 272 4172. The examiner can normally be reached on M-F from 8:30 AM to 4:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chan, can be reached on 703 305 9712, or the new number 571 272 4162. The fax phone number for the organization where this application or proceeding is assigned is 703 306 5404.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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